# Description of a New Species of *Elytrurus* and a Catalogue of the Known Species (Coleoptera: Curculionidae: Otiorhynchinae)

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SIR GUY MARSHALL has asked me to describe a new species of Elytrurus which was collected on Niue Island by A. C. Gerlach and sent to the Commonwealth Institute of Entomology for identification by W. Cottier, Department of Scientific and Industrial Research, New Zealand. I am pleased to describe the new species, because it is the first to be found on the island of Niue, and it thus fills another gap in the knowledge of the distribution of this interesting genus of broad-nosed weevils. Niue (lat. 19° 02' S, long. 169° 55′ W) lies south of Samoa, and Vavau, Tonga, which is about 240 miles to the west, is the nearest island. Niue is an emerged coral island which rises somewhat more than 200 feet above sea level. The flora is quite varied for a small coral island, and considerable areas of forest remain. It is unfortunate that so little is known about the insect fauna of the island.

With this new species it is appropriate to present a catalogue of *Elytrurus* and append some notes on the geographical distribution of the genus and its relationship to *Rhyncogonus*. In the Pacific east of Samoa, *Elytrurus* is replaced by the genus *Rhyncogonus* the appearance and habits of which are very similar

The new species and Elytrurus cinctus Boisduval, to which it is most closely allied, share the character of reduction in the development of the bevel of the corbel of the hind tibia, a tendency toward the formation found in Rhyncogonus. In Rhyncogonus the bevel is obsolete, and this character has been found useful in separating the two genera. However, it has not been pointed out that there is much variation in the development of the corbel in Elytrurus, and without an expert knowledge of the formation of the bevel in these genera, one might easily be led astray. In its most highly developed form the bevel is a prominently differentiated, shiny area set off obliquely or angulately from the outer face of the tibia, and entirely surrounded on the inner

to those of *Elytrurus* (see Fig. 1). In no island, however, do both genera occur together, and the reason for the unusual distributions of the two groups has not yet been discovered. The eastern-most species of *Elytrurus* occur in Samoa, and the Samoan forms are the most divergent of the genus. I have collected several thousand specimens of the two genera, and they appear to be counterparts. The eggs of *Rhyncogonus* are deposited on leaves, and the young larvae drop to the ground to make their way to the roots of plants where they feed. I presume that *Elytrurus* has similar habits, but I did not search for their early stages during my expeditions to Samoa and Fiii.

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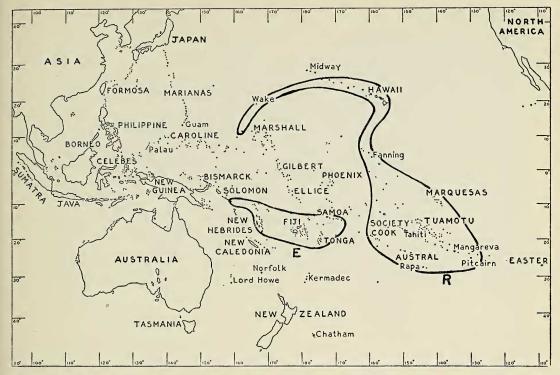


Fig. 1. Map showing the distribution of the genera Elytrurus ("E") and Rhyncogonus ("R").

(tarsal) and outer (ectal face) sides by a dense-palisade of stiff spines. In many species of *Elytrurus*, including the new species and *cinctus*, the outer row of bristles has been almost entirely lost. In *Rhyncogonus* there is no trace of the outer palisade of bristles, and at most only the faintest indication of an area which might be interpreted as an indication of the remnant of a bevel can be distinguished in some species. The eyes of *Elytrurus* are larger and flatter than those of *Rhyncogonus*. Many species of *Rhyncogonus* have strongly protuberant eyes.

Marshall (1938: 71) noted of *Elytrurus* that "An exceptional type of dimorphism is to be found in the first segment of the hind tarsi: in the male this segment is clothed beneath with soft hairs; but in the female its inner edge on the basal half is set with stiff spines, which are sometimes bare and sometimes hidden by hairs." This statement appears to apply only to certain species, and it is not characteristic of the genus as a whole.

The adult weevils feed upon the leaves of plants, and many species are abundant and voracious feeders. Plants such as *Piper* are frequently heavily attacked. It is possible that some species may become pests in areas where cultivated crops are grown adjacent to native forests or in clearings in the forest. One species, *griseus*, has become very widespread in the Fijian islands, evidently through the aid of man. Should certain of the species be carried to other regions and become established some damage to economic crops might occur. The larvae are, as noted above, presumed to feed underground at the roots of plants.

The described species of *Elytrurus* are distributed from west to east as follows:

SOLOMONS—1 species anensis

SANTA CRUZ—1 species lapeyrousei

### NEW HEBRIDES—14 forms

alatus maculicollis
ambrymensis marginatus
aobae risbeci
caudatus rusticus
caudatus erromangoi santicolus
convexus tannae

divaricatus tannae erromangoana

## FIII-23 forms

acuticauda matukuanus bryani moalensis cervinus obtusatus durvillei painei evansi prasinus protensus expansus simmondsi forcipatus smaragdus granatus greenwoodi subangulatus subtritus griseus griseus taveuni subvittatus

Tonga—1 species

cinctus

leveri

NIUE-1 species

niuei

SAMOA—3 forms

bicolor samoensis setiventris

Elytrurus niuei Zimmerman, new species Figs. 2-4

COLOR: derm mostly reddish brown, venter mostly darker to nearly black; vestiture mostly creamy white, but with iridescent scales (evidently subject to fading) more abundant on lower surface; scaling denser and more conspicuous on dorsum of female than male, in latter sex the scales form a pale vitta on sides from anterior margin of pronotum to apex of elytra.

STRUCTURE: Head with sides, as viewed from above, nearly evenly arcuate from pronotum to apices of eyes, eyes not obviously interrupting this contour; breadth at hind margins of eyes distinctly greater than length from pronotum to anterior edge of an eye (1.75:1.2); length, measured from side, from pronotum to anterior edge of eye equal to distance between fore edge of eye and base of mandible; distance between pronotum and eye equal to length of eye; narrowest frontal interocular distance only a little more than one-half the breadth between hind margins of eyes (10:18); interocular area with a conspicuous median pit which marks the termination of the raised median line or median

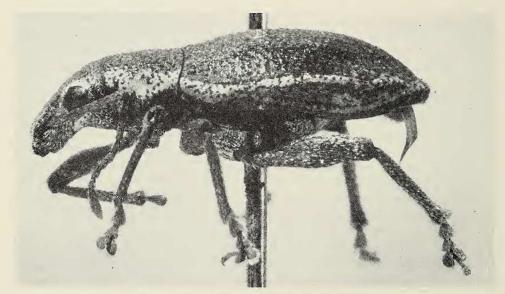


FIG. 2. Elytrurus niuei, new species, holotype male.

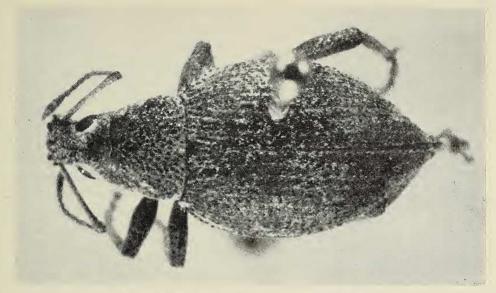


Fig. 3. Elytrurus niuei, new species, allotype female.

carina from pit to epistome; crown and front with shallow punctures of medium size interspersed with some minute punctures, most of the larger punctures bearing conspicuous, decumbent setae which are directed toward the midpoint of the crown; scales oval, densest along upper margins of eyes, rather densely continued ventrad to bare median gular sutural line.

Rostrum with greatest preapical breadth subequal to length from fore edge of eye to apex of mandible, longitudinal dorsal contour flattened from just behind interocular pit; sides beneath scrobes continuously squamose with sides of head and with numerous, conspicuous, slanting, erect setae; dorsum impressed on either side of median line which is consequently elevated as a median carina whose development is variable and may be conspicuous or obscure, punctate, squamose and setose as head; epistome rather densely set with mostly small punctures, setose only at sides and without squamae; mentum not setose, with a peduncle about one-fourth to one-third as long as median length of mentum.

Antennae with scape comparatively densely clothed with prostrate, narrow, mostly almost

setiform scales, which are more squamiform on dorsal edge, and longer, decumbent setae, apex not quite reaching as far back as anterior one-fourth of side of pronotum, subequal in length to the seven funicular segments combined; funiculus with vestiture less dense and finer than scape, lengths of segments as follows: 1–20, 2–22, 3–12, 4–11, 5–10, 6–10, 7–10; club as long as preceding four funicular segments together, lengths of segments: 1–15, 2–12, 3–15, greatest thickness of segment two 12 (these measurements with micrometer reading 40 units to one millimeter).

Pronotum obviously transverse (28:20), broadest at or just behind middle, anterior margin broadly, shallowly emarginate, posterior margin weakly convex; longitudinal median contour only slightly arcuate; disc punctate-granulate, the punctures on the posterior sides of the granules bearing fine, decurved setae mostly directed obliquely backward toward median line; scales on disc smaller and sparser than on sides, not covering the granules which protrude and are moderately shiny; squamae larger, denser, imbricated on side margins.

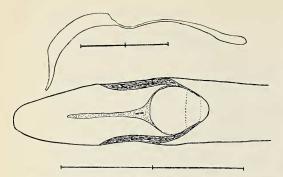


FIG. 4. Aedeagus of *Elytrurus niuei*, new species; upper figure, lateral aspect; lower figure, dorsal aspect of distal part; total length of each scale line is 1.0 mm.

Scutellum broadly protuberant, disc not punctured, not squamose, not setose, rather shiny, very finely alutaceous.

Elytra as illustrated, a little more than three times as long as pronotum, apices only shortly and moderately divaricate; apical processes reduced to low bosses which hardly project behind apex; sides not evenly arcuate into base, but humeri rather straightly oblique; striae not impressed between the rows of moderately sized strial punctures which are separated from each other on disc about the diameter of a puncture or slightly farther, the punctures bearing from their anterior ends decumbent squamiform setae; intervals flat, about two or three times as broad as strial punctures, each bearing a row of small granules from the posterior ends of which arise decurved setae; squamae oval, not imbricated on disc, even on females which have denser scaling, squamae denser and with considerable imbrication on epipleurae.

Sternum squamose and setose; prosternum with posterior median process strongly protuberant; mesosternum with intercoxal process bluntly subtriangular, apex less than one-third as broad as breadth of coxa, densely squamose, exocoxal area conspicuously more densely squamose than episternum, squamae strongly imbricated, scales on episternum separated, those on epimeron smaller and less numerous; metasternum at the shortest distance between mid and hind coxae subequal

in length to transverse diameter of a mesocoxa, disc tending to be transversely strigate, squamae there smaller and much sparser than on sides where they are dense but interrupted by rather large setigerous punctures; metepisternum squamose and setose.

Legs squamose and setose, femora more densely squamose than tibiae, but scales not imbricated and not forming patches on outer or dorsal sides; posterior femora extending to beyond base of fifth ventrite; legs similar in the two sexes, anterior tibiae not modified in male; mucrones small on all tibiae; all tibiae with a row of heavy, stiff spines along inner edge in addition to the long stiff setae; corbels of hind tibiae with the bevel considerably reduced and tending toward obsolescence, without a sharp upper line marking the upper (outer) edge of the bevel and without the row of stiff spines or heavy bristles along the upper margin as is found on many species of the genus, although the main (lower, or inner) row of spines separating the bevel from the corbel proper is well developed and normal.

Venter with puncturation moderate, with numerous slanting setae on all ventrites; with scales larger, denser and more conspicuous on sides of segments, those on discs of ventrites one to four narrow and becoming setiform caudad, a wide patch of scales on sides of ventrite four in male, but only a few scales there in female; ventrite five with only a few broad scales at sides at base in male, but apical two-thirds of disc of female clothed with broad and narrow lanceolate scales; with the first ventrite about as long along median line as ventrite two plus three, rather similar in the two sexes; ventrite two as long as three plus four plus about one-half of four again; ventrite five broadly U-shaped, two-thirds as long as wide and more than one-fifth shorter than ventrite one in male, V-shaped, only a little shorter than wide and as long as ventrite one in female, also in the female it is bare in about basal one-third, this bare area has a sublateral groove on either side from base to squamose zone.

LENGTH (including head and rostrum): male, 10–10.5 mm.; female, 12–12.5 mm. Breadth: male, 4.25–4.5; female: 5.25.

Holotype male and allotype female, deposited in the British Museum (Natural History), one male and one female paratype collected by A. C. Gerlach "ex coconut tree" at Fonuakula, Niue Island, in 1953.

This species most closely resembles Elytrurus cinctus Boisduval from Tonga, and it appears to have been derived from it. Elytrurus cinctus is a larger, mostly black-bodied species with the dorsum conspicuously clothed with green or coppery scales and with a broader, much more conspicuous lateral pale band. The pit between the eyes is a deep hole on niuei, but it is shallow or obsolete on cinctus. The side of the rostrum beneath the scrobe is densely and conspicuously squamose in niuei (and also setose), but in cinctus it is only setose. The eyes are somewhat flatter in niuei and do not interrupt the lateral outline of the head as much as they do in cinctus. The anterior margin of the pronotum is not emarginate in cinctus as it is in niuei. The fifth ventrite of the female of cinctus has the scales reduced to setae or there are a few narrowly lanceolate scales, but on niuei there are obviously numerous broader ovoid or broader lanceolate scales.

# ELYTRURUS Boisduval

Elytrurus Boisduval, 1835: 400. Schoenherr, 1843: 238. Lacordaire, 1863: 147. Faust, 1897: 230.

Elytrogonus Guérin-Méneville, 1841: 126. Lacordaire, 1863: 148. Faust, 1897: 231. Lona, 1937: 302.

Synonymy by Marshall, 1938: 71. Lona, 1937: 302, catalogue. Lona incorrectly credited *Elytrurus* to Schoenherr and incorrectly listed it as a synonym of *Elytrogonus*. Marshall, 1938: 69, revision and key. Paulian, 1945: 193, discussion and key. Type of the genus: *Elytrurus lapeyrousei* Boisduval, 1835: 400. Cited by Schoenherr, 1843: 239.

The following species have been described in *Elytrurus* or *Elytrogonus* but are synonyms or have been transferred to other genera:

Elytrurus Angulatus Waterhouse is a synonym of Elytrurus expansus Waterhouse.

Elytrurus bivittatus Marshall is a synonym of Elytrurus bicolor Marshall.

Elytrogonus coquereli Fairmaire is a Rhyncogonus. Elytrurus dentipennis Fairmaire is a synonym of Elytrurus caudatus Pascoe.

Elytrogonus griseus Montrouzier is an Anomalodermus.

Elytrurus horizontalis Fairmaire is a synonym of Elytrurus subvittatus Pascoe.

Elytrogonus otiorhynchoides Fairmaire is a Rhyncogonus.

Elytrurus (?) papuanus Heller is a Hellerhinus. Elytrurus serrulatus Waterhouse is a synonym of Elytrurus rusticus Pascoe.

Elytrurus squamatus Rainbow is a synonym of Trigonops insularis (Boheman).

Elytrurus vanikorae Heller is a synonym of Elytrurus lapeyrousei Boisduval.

#### CATALOGUE OF THE SPECIES

acuticauda Fairmaire (1879: 46; 1880: 208); Marshall (1938: 90, fig. 14); Paulian (1945, fig. 55).
 Elytrogonus acuticauda (Fairmaire) Lona (1937: 302).

Fiji: Taveuni.

 alatus Saunders and Jekel (1855: 290, pl. 15, fig. 1); Lacordaire (1863: 148); Marshall (1938: 90).

Elytrogonus alatus (Saunders and Jekel) Lona (1937: 302).

New Hebrides: Futuna.

In Coleopterorum Catalogus, the locality is given as Lord Howe Island, but this Futuna should not be confused with the Lord Howe Island between Australia and New Zealand or Ontong Java ("Lord Howe") or Futuna, Horne Islands west of Samoa.

3. **aobae** Paulian (1945: 199, figs. 46, 47). New Hebrides: Omba (Oba, Aoba).

4. ambrymensis Marshall (1938: 81); Paulian (1945, figs. 43, 66).

New Hebrides: Ambrim (Ambrym).

5. anensis Marshall (1938: 82). Solomons: Santa Ana.

6. bicolor Marshall (1921: 588; 1931: 260, fig. 3; 1938: 76). Elytrogonus bicolor (Marshall) Lona (1937: 302). Elytrurus bivittatus Marshall (1921: 588); synonymy by Marshall (1931: 260). Samoa: Tutuila, Upolu, Savaii. Type lo-

cality cited only as "Samoan Islands." 7. bryani Marshall (1938: 84, fig. 7). Fiji: Naiau.

8. caudatus Pascoe (1870: 471, pl. 18, fig. 5); Fairmaire (1880: 209); Marshall (1938: 89, fig. 13); Paulian (1945, fig.

Elytrogonus caudatus (Pascoe) Lona (1937: 302).

Elytrurus dentipennis Fairmaire (1879: 46; 1880: 209); synonymy by Marshall (1938: 89).

Elytrogonus dentipennis (Fairmaire) Lona (1937: 302).

New Hebrides: Tana (Tanna).

This species has erroneously been recorded from Fiji by Fairmaire (1879: 46; 1880: 209) and others.

9. caudatus erromangoi Paulian (1945: 196, figs. 49, 61, 62).

New Hebrides: Eromanga (Errormango). The status of this form requires further study; it may be a species.

10. cervinus Marshall (1938: 76, fig. 1). Fiji: Ovalau.

11. cinctus Boisduval (1835: 401); Boheman (1843: 240); Fairmaire (1849: 511; 1880: 211); Lacordaire (1863: 148); Marshall (1938: 80); Paulian (1945: 197, figs. 39, 58).

Elytrogonus cinctus (Boisduval) Lona (1937:

Tonga: Neiafu (Vavau Group), Vavau, Tongatabu.

Specimens have been seen in collections

which bear incorrect locality labels. Boisduval originally stated erroneously that it came from Vanikoro (Santa Cruz Islands). In Coleopterorum Catalogus, the localities "Neue Hebriden, Vanikor, Tanga" (all in error) are given. Paulian (1945: 197) records it from Fiji in error. Fairmaire (1880: 211) pointed out the errors in locality and gave the true locality as Tonga. Numerous specimens, all from Tonga, have been seen.

12. convexus Paulian (1945: 201, fig. 35). New Hebrides: Espiritu Santo.

13. divaricatus Waterhouse (1877: 10); Fairmaire (1880: 212); Marshall (1938: 82); Paulian (1945, fig. 53).

Elytrogonus divaricatus (Waterhouse) Lona (1937: 302).

New Hebrides: Ambrim (Ambrym), Efate (Vati, type locality).

14. durvillei Blanchard (1853: 221); Fairmaire (1880: 210); Lacordaire (1863: 148); Marshall (1938: 93); Paulian (1945, figs. 48, 69).

Elytrogonus Durvillei (Blanchard) Lona (1937: 303).

Fiji: Vanua Levu.

Erroneously listed in Coleopterorum Catalogus from "Labouka" (error for Levuka, Ovalau).

15. evansi Marshall (1938: 82, fig. 6). Fiji: Taveuni.

16. expansus Waterhouse (1877: 8); Fairmaire (1880: 207); Marshall (1938: 90, figs. 15, 16).

Elytrogonus expansus (Waterhouse) Lona (1937: 303).

Elytrurus angulatus Waterhouse (1877: 8); synonymy by Fairmaire (1880: 208).

Fiji: Ovalau (type locality), Viti Levu. In Coleopterorum Catalogus, Ovalau is mis-

spelled Ovalan.

17. forcipatus Marshall (1938: 85, fig. 8). Fiji: Tuvutha (Lau Group).

18. granatus Fairmaire (1879: 46 [misprinted in Marshall as p. 116]; 1880: 210); Marshall (1938: 93); Paulian (1945, figs. 67, 68).

Elytrogonus granatus (Fairmaire) Lona (1937: 303).

Fiji: Taveuni (possible type locality), Viti Levu.

19. greenwoodi Marshall (1938: 94, figs. 20, 21).Fiji: Viti Levu.

20. griseus (Guérin-Méneville).

Elytrogonus griseus Guérin-Méneville (1841: 126; type of Elytrogonus); Blanchard (1853: 237, pl. 15, figs. 1, 2); Lacordaire (1863: 149); Fairmaire (1881: 293); Lona (1937: 303).

Elytrurus griseus (Guérin-Méneville) Marshall (1938: 78).

Fiji: Matuka, Moala, Ovalau, Taveuni, Totoya, Vanua Levu, Viti Levu, Wakaya. Lau Group: Avea, Kambara, Kanathea, Katafanga, Komo, Lakemba, Mango, Mothe, Naiau, Namuka, Oneata, Thithia, Tuvutha, Vanua Mbalavu, Vanuavatu.

In the original description the type locality was erroneously stated to have been Triton Bay, New Guinea, but the species is Fijian. Marshall misspelled Totoya as Totova, and Oneata as Onesta.

It is interesting that this one species should have become so widespread through the islands, whereas most of the other species have restricted distributions. It is the commonest species of *Elytrurus*, and its habits appear to have contributed to its distribution by the aid of man. It may at times become a minor pest.

21. griseus taveuni Marshall (1938: 78, as subspecies of griseus).
Fiji: Taveuni.

22. lapeyrousei Boisduval (1835: 400); Lacordaire (1863: 148); Marshall (1938: 88); Paulian (1945: 196, fig. 57).

Elytrurus Lapeirousei Boisduval, Boheman, in Schoenherr (1843: 239).

Elytrogonus Lapeyrousei (Boisduval) Lona (1937: 303).

Elytrurus vanikorae Heller (1935: 269); synonymy by Marshall (1938: 88); Paulian (1945: 195, footnote, fig. 38; this species?).

Elytrogonus vanikorae (Heller) Lona (1937: 304).

Santa Cruz Islands: Vanikoro. Type of the genus.

23. leveri Marshall (1938: 92). Fiji: Vanua Levu.

24. maculicollis Heller (1916: 358); Marshall (1938: 82); Paulian (1945: 196, figs. 41, 42, 44, 45, 63).

Elytrogonus maculicollis (Heller) Lona (1937: 303).

New Hebrides: Epi (type locality), Malekula.

marginatus Saunders and Jekel (1855: 291, pl. 15, fig. 2); Lacordaire (1863: 148); Marshall (1938: 86); Paulian (1945, fig. 54).

Elytrogonus marginatus (Saunders and Jekel) Lona (1937: 303).

New Hebrides: Aneityum (Aneiteum), Eromanga.

In Coleopterorum Catalogus it is erroneously listed from "Lord Howe." The exact type locality is unknown.

26. matukuanus Marshall (1938: 79). Fiji: Matuku.

27. moalensis Marshall (1938: 87). Fiji: Moala.

28. niuei Zimmerman, new species. Niue Island.

29. obtusatus (Fairmaire).

Elytrogonus obtusatus Fairmaire (1881: 293); Lona (1937: 303).

Elytrurus obtusatus (Fairmaire) Marshall (1938: 78); Paulian (1945: fig. 64). Fiji: Viti Levu.

30. painei Marshall (1938: 80, figs. 4, 5). Fiji: Mbengga.

31. prasinus Marshall (1938:87, figs. 10, 11).Fiji: Kandavu.

32. **protensus** Marshall (1938: 93, fig. 19). Fiji: Viti Levu.

33. **risbeci** Marshall (1937: 39; 1938: 80, fig. 3); Risbec (1937: 157, pl. 1, fig. 13);

Paulian (1945: 196, figs. 40, 56). Elytrogonus Risbeci (Marshall) Lona (1937: 303).

New Hebrides: Efate (Vate).

34. rusticus Pascoe (1881: 589); Fairmaire (1881: 292); Marshall (1938: 80); Paulian (1945, fig. 70).

Elytrogonus rusticus (Pascoe) Lona (1937: 303).

Elytrurus serrulatus Waterhouse (1897: 10); Fairmaire (1880: 212); synonymy by Marshall (1938: 80).

Elytrogonus serrulatus (Waterhouse) Lona (1937: 303).

New Hebrides: Aneityum?, Efate (Vate, Vati), Tana (Tanna).

Erroneously recorded by Fairmaire (1881: 292) from Fiji, and the error repeated in *Coleopterorum Catalogus*. In Marshall (1938: 80) delete the ''1877' after Waterhouse.

35. samoensis Marshall (1921: 587; 1938: 76).

Elytrogonus samoensis (Marshall) Lona (1937: 303).

Samoa (exact type locality not known).

36. samoensis setiventris Marshall (1921: 587, a variety).

Elytrogonus samoensis setiventris (Marshall) Lona (1937: 303).

Samoa: Tutuila.

Marshall did not mention this form in his monograph of the Samoan Curculionidae (1931) or in his revision of *Elytrurus* (1938).

37. santicolus Marshall (1938: 77). New Hebrides: Espiritu-Santo.

38. simmondsi Marshall (1938: 90, fig. 17). Fiji: Viti Levu.

39. smaragdus Marshall (1938: 88, fig. 12). Fiji: Kandavu.

40. subangulatus (Fairmaire).

Elytrogonus subangulatus Fairmaire (1883: 34); Lona (1937: 303).

Elytrurus subangulatus (Fairmaire) Marshall (1938: 79).

Fiji: Viti Levu.

Originally recorded in error from Duke of York Island by Fairmaire.

- 41. subtritus Marshall (1938: 92, fig. 18). Fiji: Ovalau.
- 42. **subvittatus** Pascoe (1881: 589); Fairmaire (1881: 291); Marshall (1938: 86). *Elytrogonus subvittatus* (Pascoe) Lona (1937: 303).

Elytrurus horizontalis Fairmaire (1881: 291); synonymy by Marshall (1938: 86).

Elytrogonus horizontalis (Fairmaire) Lona (1937: 303).

Fiji: Ovalau, Ngau (exact type locality not known, but probably Ovalau).

43. tannae Paulian (1945: 197, fig. 51). New Hebrides: Tana (Tanna).

44. tannae erromangoana Paulian (1945: 198, fig. 52).

New Hebrides: Eromanga (Erromango). The status of this form requires study; it may be a species.

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